

there are many who will miss his friendly advice and help.

He was a deacon and member of the choir at St. Aubyn's Congregational Church at Upper Norwood. His first wife, daughter of the Rev. J. L. Keyes, died in 1937. Of this marriage there were three sons and two daughters. His second wife, by whom he had three children, is the daughter of Sir Hubert Llewellyn Smith.

G. A. H. BUTTLE

Prof. Arthur Rohn

A YEAR ago mention was made in these pages of the first centenary of 'ETH', as it has come to be internationally known, namely, the Eidgenössische Technische Hochschule, Zurich, or the Swiss Federal Institute of Technology. Now we have to record the death on October 3 of the man who more than any other in his generation helped to give the Institute the position it holds as a centre of teaching and research in the field of technology in the widest sense of the term: Prof. Arthur Rohn, former president of the Institute's board and rector as well as a member of the professorial staff during eighteen years.

In the twenty-two years from 1926, when he was appointed head of the Institute, until 1948, when, greatly admired and respected as one of the country's élite, he gave his farewell address, Prof. Rohn had determined the policy and guided the development of the Institute in a way that earned him the gratitude of scholars, students and industrialists all over the world. His greatest achievement is the creation of more than two dozen specialized research centres in the form of institutes, which he helped to provide with sufficient grants, libraries, staff and special buildings. In addition to this, he persuaded the Swiss Government to create forty new professorial chairs in the field of pure and applied science. If the research institutes, for example, of aerodynamics, town and country planning, industrial accountancy, bear witness to his far-sighted vision, other innovations, like the new chairs for theoretical physics and mathematics, show his insistence on solid basic research in fundamentals.

Before he was called to the post of president of the Institute's Board, Prof. Rohn had held for nearly twenty years (1908-26) one of the most important chairs of civil engineering, that of structural engineering and bridge-building. Early and extensive experience in bridge-building in Switzerland and the Ruhr district had introduced him to this, his favourite field, in which he soon rose to be a master.

It was not only the eminence of the specialist nor the long experience as an academic teacher that enabled Arthur Rohn to exercise his brilliant leadership in higher professional education and industrial development, nor were these the only qualities that earned him the high respect—the veneration even—that was felt for him in later years. He combined qualities that are not often found together in such fullness: breadth of vision with practical executive power and great firmness of will, a profound belief in the capacity of men to improve things, with a clear notion of what was possible, aristocratic aloofness with kindness and generosity and a sense of justice. It was this largeness of his mind and the impressive stature of his moral character that won him the admiration of his students and that inspired the Institute of which he was for so many years the head.

MAX WILDI

V. A. Obruchev

VLADIMIR AFANASIEVICH OBRUCHEV, the premier geologist in Russia, died in Moscow on June 19, at the age of ninety-three. He was born on September 28 (Old Style), 1863, in Klepinino, Tver district, in the family of an army officer. He was educated in Vilna, and went to the St. Petersburg Mining Institute. After graduating as a mining engineer in 1886, he went to Central Asia where, following the lead of his teacher, Prof. I. V. Mushketov, he spent two years in the study of aeolian deposits. In 1888 he was attached to the Mining Department in Irkutsk.

This was the beginning of Obruchev's work on the geology of Siberia, to which he devoted the rest of his life. At first he worked on the stratigraphy and tectonics of the Palaeozoic and Pre-Cambrian rocks of the Transbaikal and Lena region, and studied the geology of the gold fields. In 1892 he started on a series of travels to Central Asia, Dzungaria, Mongolia, China and various parts of Siberia. For a time he taught geology in Tomsk Polytechnical Institute (1901-12) and later in Taurida University at Simpheropol (1918-22) and in the newly founded Moscow Mining Academy (1922-28). In 1929 he was elected to the Academy of Sciences and during 1929-34 he was the director of the Geological Institute of the Academy. There are many other administrative and editorial posts which he filled at different times in his career.

Obruchev's publications are very numerous and they range over a wide field. His most important work deals with the geology of Siberia, on which he was a recognized authority. The three fundamental works on this subject are: "The Geology of Siberia", in one volume (1926), published both in Russian and German ("Geologie von Siberien"); "The Geology of Siberia", in three volumes (1935-38); and "The History of the Geological Explorations of Siberia", in five volumes (1931-42). The two best-known text-books written by Obruchev are: "Ore Deposits" and "Field Geology". His travel books include: "Central Asia, Northern China and Nan-Shan", "From Kyakhta to Kuldzha", "In the Mountains and Deserts of Central Asia", and "My Travels in Siberia". But even more popular were Obruchev's novels, all of them provided with a vivid geological setting, such as "The Land of Sannikov", "Gold-seekers in the Desert", and "Plutonia".

Obruchev, in the eyes of his contemporaries, was not only a great geologist, a great traveller and a great writer; he was also a man of striking personal charm, a remarkable organizer and a great character. He was very popular, especially with the young readers of his popular books and novels; it was said of him that he used to receive thousands of letters, and that none was left unanswered when an answer was asked for.

S. I. ТОМКЕЕВ

Mr. D. L. Edwards

WITH the death on September 23, after a brief illness, of Mr. D. L. Edwards, director of the Norman Lockyer Observatory of the University of Exeter for nearly twenty years, another link with Sir Norman Lockyer, eminent astronomer and founder and editor for many years of *Nature*, has been severed all too soon.

Donald Luther Edwards was born at Peterborough on January 11, 1894, into a family whose scientific

attainments were later to receive distinguished recognition in the fields of entomology and geology. He was educated at Cambridge County School, and the Royal College of Science, London, whence he graduated with the associateship, and a diploma in astronomy.

On the outbreak of the First World War he joined the Signals section of the Royal Engineers, serving in France with a sound-ranging unit. After demobilization early in 1919, Edwards went to Sidmouth as assistant to Lockyer, and commenced his duties at the Hill Observatory (as it was then called) in May of that year. Sir Norman died in 1920; and with the appointment of his son, Dr. W. J. S. Lockyer, as director in February 1921, Edwards became chief assistant, which post he held until December 1936, when he, in turn, was made director following the death of Dr. Lockyer.

During the period of his association with the Lockyers, Edwards's main interest lay in the determination of stellar parallaxes by a spectroscopic method first suggested by Adams in 1920. At Sidmouth, the technique was successfully applied to objective-prism spectra; and between 1922 and 1930 six papers were published by him, summarizing the results for two hundred B-type stars.

Later researches continued the study of the irregular variable, γ Cassiopeiae, begun in 1923 by W. J. S. Lockyer. Quite recently, he had contributed an essay on this star to the second of the commemorative volumes, "Vistas in Astronomy", presented to Prof. F. J. M. Stratton on his seventieth birthday.

As director, he had the future development of the Observatory always at heart, while preserving the best of the Lockyer tradition. It was due largely to his untiring efforts that the Observatory Corporation was transferred to the University of Exeter (then the University College of the South-West) in May 1948.

Edwards was elected a Fellow of the Royal Astronomical Society in 1921 and served on its Council during 1946-50; he was also a member (from 1915) of the British Astronomical Association.

In all that he undertook he was conscientious and meticulously careful in every detail. Outside his professional work, his interests were wide, embracing such diverse subjects as music, ornithology, Egyptology and philately. For almost forty years he had known the encouragement and support of a serenely happy domestic life, having married in 1919 Elsie, daughter of the late Thomas Stanley, of Wednesbury, who survives him.

D. R. BARBER

NEWS and VIEWS

Chemical Engineering at the Imperial College, London: Prof. P. V. Danckwerts

A CHAIR of chemical engineering science has been established in the Department of Chemical Engineering at the Imperial College of Science and Technology, London, and Mr. P. V. Danckwerts has been recently appointed to it. Mr. Danckwerts studied chemistry at Balliol College, Oxford, under Mr. R. P. Bell. Graduating in 1939, he spent a year as a research chemist with the Fullers' Earth Union before joining the Navy. He served for six years, first as a bomb-disposal officer in various parts of the world, then, after being wounded during the invasion of Sicily, at Combined Operations Headquarters. At the end of the War he went as a Commonwealth Fund Fellow to study chemical engineering at the Massachusetts Institute of Technology, and received a master's degree in chemical engineering practice in 1948. He then joined the staff of the newly formed Department of Chemical Engineering at Cambridge, where he spent the next six years as a demonstrator and lecturer, helping to establish the curriculum and set the standards for the Chemical Engineering Tripos course. He also made a number of theoretical contributions to chemical engineering science in the fields of diffusional processes, mixing and continuous-flow systems. For the past two years he has been deputy-director of the Research and Development Branch of the Industrial Group, Atomic Energy Authority, where his duties have included the direction of the Group's extensive development work in chemistry and chemical engineering.

Senior Appointments at the Royal Aircraft Establishment: Mr. E. C. Cornford

MR. E. C. CORNFORD has been appointed head of the Guided Weapons Department of the Royal Aircraft Establishment. He was educated at Kimbolton

School and Jesus College, Cambridge, where he read mathematics, graduating in 1938. He entered government service at the Royal Aircraft Establishment, where he was concerned with research on armament problems. During most of the war years he worked with the late Dr. L. B. C. Cunningham in the Air Warfare Analysis Section of the Air Ministry at Harrow. His work covered a wide range of theoretical investigations in the growing field of operational research, the application of mathematical probability methods to problems of air combat, and the introduction of the new radar blind-bombing devices which were so successfully used by Bomber Command. In 1946 he was transferred to the newly formed Controlled Weapons Department at Farnborough. After attending the Joint Services Staff College in 1950 he was seconded as senior principal scientific officer to the Scientific Adviser's Staff, Air Ministry. He returned to the Royal Aircraft Establishment as superintendent of the Guided Weapons Assessment Division in 1954 and has since been responsible for advanced work in the study of new weapon systems and air defence problems.

Mr. D. J. Lyons

MR. D. J. LYONS has been promoted deputy chief scientific officer to fill the post of senior superintendent, Ballistic Missile Division, in the Guided Weapons Department at the Royal Aircraft Establishment. He is a graduate of the University of London (Queen Mary College), where he obtained his degree in engineering in 1937. Following this, he joined the Aerodynamics Department at Farnborough, where he worked on wind-tunnel and full-scale stability and control problems. He had an interval of two years on flying duties in the R.A.F. before returning to Farnborough in 1941. Afterwards his work covered full-scale investigation of stability problems in new aircraft, particularly on spinning and autostabiliza-